

Newport, Rhode Island: the wharves were flooded by the very high tide of the 23d.

New York City: the highest tide known for forty-five years occurred on the 24th; much damage resulted from cellars and sewers overflowing. At 10 a. m. the water had reached a mark four inches higher than the flood of February, 1885, when the East River was higher than for a quarter of a century. The Harlem River rose three feet and eight inches above high-water mark. Wharves along the Hudson River, as far as Poughkeepsie, were flooded.

Long Branch, New Jersey, 24th: the damage caused by high tides along this part of the New Jersey coast is very heavy; bathing houses were washed away, and wharves badly damaged.

Cape Mendocino, California: the highest tide ever known in Humboldt county occurred on the 24th; the water backed up to a great distance on every side from the main rivers; from the adjoining hills the lowlands looked like a vast ocean. At Eureka the lumber mills were compelled to shut down, the water overflowing the wharves. Thousands of acres supposed to have been above high-water mark were inundated.

Pysht, Washington Territory, 24th: an unusually high tide at 2 p. m.; the highest known for several years.

Chatham, Massachusetts: an unusually high tide occurred on the 24th; Chatham beach was almost submerged.

Atlantic City, New Jersey, 24th: the tide this morning is the heaviest for years. Much damage was done to property along the ocean front.

Cape May, New Jersey: very high tides occurred on the 23d and 24th. Much of the beach front was washed away, and wharves, etc., demolished and carried out to sea. Railroad travel was suspended on account of the high water.

New Haven, Connecticut: the highest tide in twenty-nine years occurred on the 24th; it rose three feet above high-water mark, and covered the wharves.

High tides also occurred at the following places:

Portland, Maine, 24th, 25th.

Eastport, Maine, 24th, 25th, 26th.

Narragansett Pier, Rhode Island, 24th.

Chincoteague, Virginia, 23d, 24th.

Sandy Hook, New Jersey, 23d, 24th.

Cedar Keys, Florida, 22d.

Pysht, Washington Territory, 23d.

Tatoosh Island, Washington Territory, 7th.

Taunton, Massachusetts, 24th, 25th.

VERIFICATIONS.

INDICATIONS.

The detailed comparison of the tri-daily indications for November, 1885, with the telegraphic reports for the succeeding thirty-two hours, shows the general average percentage of verifications to be 79.90 per cent. The percentages for the four elements are: Weather, 84.25; direction of the wind, 76.88; temperature, 77.23; barometer, 84.83 per cent. By geographical districts, they are: For New England, 75.48; middle Atlantic states, 83.01; south Atlantic states, 85.28; eastern Gulf states, 84.15; western Gulf states, 82.27; lower lake region, 77.27; upper lake region, 76.66; Ohio Valley and Tennessee, 82.31; upper Mississippi valley, 76.11; Missouri Valley, 77.17. There were twenty-four omissions to predict, out of 2,934, or 0.82 per cent. Of the 2,910 predictions that have been made, one hundred and twenty-seven, or 4.36 per cent., are considered to have entirely failed; one hundred and forty-eight, or 5.09 per cent., were one-fourth verified; four hundred and forty-nine, or 15.43 per cent., were one-half verified; four hundred and eighty-nine, or 16.80 per cent., were three-fourths verified; 1,697, or 58.32 per cent., were fully verified, so far as can be ascertained from the tri-daily reports.

The percentages of verifications of special predictions for certain localities are, as follows:

Omaha, Nebraska (twenty-five days), 84.69; Arkansas, (twenty-five days), 82.00; Tennessee (twenty-four days), 84.26; Georgia (twenty-five days), 86.50; Washington City (twenty-

nine days), 79.31; Baltimore, Maryland (twenty-eight days), 86.11; Erie, Pennsylvania, 66.25; Boston, Massachusetts, 77.50; Portland, Maine (twenty-nine days), 72.41; Albany, New York, 81.67; Pittsburg, Pennsylvania, 66.67; Cincinnati, Ohio, 77.50; Louisville, Kentucky, 83.33; Columbus, Ohio, 71.67; Cleveland, Ohio, 57.64; Indiana, 83.33; Oswego, New York, 63.33; Rochester, New York, 63.33; Buffalo, New York, 62.50; Milwaukee, Wisconsin, 73.33; Chicago, Illinois, 76.67; Detroit, Michigan, 74.17; Toledo, Ohio, 73.33; Sandusky, Ohio, 67.50; Cairo, Illinois, 87.71; Saint Louis, Missouri, 88.56; Memphis, Tennessee, 80.83; Shreveport, Louisiana, 87.91; Iowa (twenty-nine days), 76.21.

CAUTIONARY SIGNALS.

During November, 1885, two hundred and fourteen cautionary signals were ordered. Of these, one hundred and fifty-eight, or 73.83 per cent., were justified by winds of twenty-five miles or more per hour, at or within one hundred miles of the station. Sixty-two cautionary off-shore signals were ordered, of which number, forty, or 64.52 per cent., were fully justified both as to direction and velocity; fifty-six, or 90.32 per cent., were justified as to direction, and forty-eight, or 77.42 per cent., were justified as to velocity. Two hundred and seventy-six signals of all kinds were ordered, one hundred and ninety-eight, or 71.74 per cent., being fully justified. These do not include signals ordered at display stations where the velocity of the wind is only estimated. Of the above cautionary off-shore signals, forty-one were changed from cautionary signals. Five signals were ordered late. In forty-two cases, winds of twenty-five miles or more per hour were reported for which no signals were ordered.

COLD-WAVE SIGNALS.

During the month there were one hundred and fifty cold-wave signals displayed. Of these, there were one hundred and twenty-six, or 84.0 per cent., justified. In eight cases the signals were considered to have been ordered late.

RAILWAY WEATHER SIGNALS.

Prof. P. H. Mell, jr., director of the "Alabama Weather Service," in the report for November, 1885, states:

The verifications of predictions for the whole area was 86 per cent. for temperature, and 90 per cent. for weather.

The following roads comprise this system: Western of Alabama; South and North; Montgomery and Mobile; Mobile and Girard; Georgia Pacific; East Tennessee, Virginia and Georgia system in Alabama; Memphis and Charleston; Columbus Western; Atlanta and West Point of Georgia; Northeastern of Georgia; Atlanta and Charlotte Air Line; Western and Atlantic; Georgia; East Tennessee, Virginia and Georgia system in Georgia; and Savannah, Florida and Western.

ATMOSPHERIC ELECTRICITY.

AUROSAS.

Auroral displays occurred during November, as follows:

Alpena, Michigan, 7th: an aurora was observed at 7.20 p. m., consisting of a diffused light, resting on a dark segment, from which a few small streamers, having an apparent motion from east to west, were noted; the display disappeared at 10.30 p. m.

Mackinaw City, Michigan, 7th: an aurora was observed from 9.30 to 10.30 p. m., consisting of a segment above a bank of clouds of 30° altitude; the light was of a pale yellow color; occasionally a streamer was observed to shoot up above the clouds to an altitude of 65°. At 10 p. m. the sky became obscured.

Fort Buford, Dakota, 7th: an aurora, consisting of a pale white light, was visible from 9.22 p. m. until near midnight; the sky was obscured at intervals.

Fort Totten, Dakota, 7th: an auroral light, of pale yellow color, was observed in the north from 8 to 11 p. m.; the display was partially obscured by clouds.

Fort Sully, Dakota, 7th: there was a faint auroral glow in the north between 8 p. m. and 12.30 a. m. of the 8th.

Fort Bennett, Dakota, 7th: a faint auroral light was observed between 8.10 and 11.30 p. m., in the north-northeast,